

This listing of claims will replace all prior versions and listings of claims in this application.

Listing of Claims

1. (Currently amended) An optical structure comprising:
a substrate having a surface; and
a modified barium titanate thin film deposited on said surface of said substrate,
wherein said substrate comprises Si or SOI with an optical buffer layer, [[and]]the modified barium titanate comprises barium titanate including 2 to 20 mol% of Zr (BaZrO₃), the optical buffer layer has a refractive index lower than a refractive index of the modified barium titanate, and the optical buffer layer is suitable for confining an optical signal in the modified barium titanate thin film by optically isolating the modified barium titanate film from the substrate comprising silicon.
2. (Cancelled)
3. (Withdrawn) The structure of claim 1, wherein the stabilized barium titanate comprises barium titanate including 2 to 20 mol% of Hf (BaHfO₃).
4. (Withdrawn) The structure of claim 1, wherein the stabilized barium titanate comprises barium titanate including 2 to 12 mol% potassium niobate (KNbO₃).
5. (Withdrawn) The structure of claim 1, wherein the stabilized barium titanate comprises a barium titanate including 4 to 14 mol% Sn (BaSnO₃).
6. (Cancelled)
7. (Previously presented) The structure of claim 1, wherein said optical buffer layer comprises MgO, YSZ, CeO₂, SiO₂, or a combination thereof.
8. (Previously presented) The structure of claim 1, further comprising electrodes on a surface of the modified barium titanate thin film, configured to form an electro-optic structure.
9. (Cancelled)

10. (Cancelled)
11. (Withdrawn) The method of claim 9, wherein the stabilized barium titanate comprises barium titanate including 2 to 20 mol% of Hf (BaHfO_3).
12. (Withdrawn) The method of claim 9, wherein the stabilized barium titanate comprises barium titanate including 2 to 12 mol% potassium niobate (KNbO_3).
13. (Withdrawn) The method of claim 9, wherein the stabilized barium titanate comprises a barium titanate including 4 to 14 mol% Sn (BaSnO_3).
14. (Currently amended) The method of claim ~~[[9]]~~15 further comprising placing electrodes on a surface of the modified barium titanate thin film configured to form an electro-optic structure.
15. (Currently amended) A[[The]] method of claim 9 of forming an optical structure comprising:
 - providing a substrate having a surface; and
 - depositing a modified barium titanate thin film on said surface of said substrate,
 - wherein the modified barium titanate thin film comprises barium titanate including 2 to 20 mol% of Zr (BaZrO_3), said substrate comprises Si or SOI with an optical buffer layer, the optical buffer layer has a refractive index lower than a refractive index of the modified barium titanate, and the optical buffer layer is suitable for confining an optical signal in the modified barium titanate thin film by optically isolating the modified barium titanate film from the substrate comprising silicon.
16. (Previously presented) The method of claim 15, wherein said optical buffer layer comprises any of MgO , YSZ , CeO_2 , SiO_2 , or a combination thereof.